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PATENT COOPERATION TREATY Rec'd PCT/PTC 03 SEP 2004

PCT**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**
(PCT Article 36 and Rule 70)

REC'D 29 JUL 2004



Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International PCT Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/00947	International filing date (day/month/year) 06.03.2003	Priority date (day/month/year) 06.03.2002
International Patent Classification (IPC) or both national classification and IPC H04L29/08		
Applicant SYMBIAN LIMITED et al		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 8 sheets.

- This report contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application

Date of submission of the demand 03.10.2003	Date of completion of this report 28.07.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Gabriel, C Telephone No. +49 89 2399-7112 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 03/00947**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-4, 10-19 as originally filed
5-9 received on 14.07.2004 with letter of 14.07.2004

Claims, Numbers

1-22 received on 14.07.2004 with letter of 14.07.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-22
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-22
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents (D1-D4) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

- D1: WO 02 17075 A (SYMBIAN LTD ;RANDALL STEPHEN (GB); FORSYTH JOHN MATTHEW (GB)) 28 February 2002 (2002-02-28) cited in the application
- D2: 'ELECTRONIC CLIMATICAL SCHEDULER MECHANISM' IBM TECHNICAL DISCLOSURE BULLETIN, IBM CORP. NEW YORK, US, vol. 37, no. 4A, 1 April 1994 (1994-04-01), pages 121-122, XP000446208 ISSN: 0018-8689
- D3: EUSTICE K F ET AL: 'A universal information appliance' IBM SYSTEMS JOURNAL, IBM CORP. ARMONK, NEW YORK, US, vol. 38, no. 4, 1999, pages 575-601, XP002157988 ISSN: 0018-8670
- D4: EP-A-0 829 704 (ZANAVY INFORMATICS KK ;HITACHI LTD (JP)) 18 March 1998 (1998-03-18)

2. The subject-matter of the independent claims does not meet the requirements of Article 6 PCT for lack of clarity, for the following reasons:

- 2.1 The expression "data types" in claims 1, 21 and 22 is not clear. It is not evident whether reference is made to different data formats (e.g. text, picture formats) or to different content services (e.g. sports news, weather information).

Since the application as filed only provides support for this latter interpretation (Article 34(2)(b) PCT), it is assumed in the remainder of this International Preliminary Examination Report, that the expression "data types" should be interpreted as "services", as disclosed on page 16, line 10-17 of the application as originally filed.

3. In so far as the expression "data types" in independent claims 1, 21 and 22 can be interpreted as "services", the subject-matter of these claims does not involve an inventive step for the following reasons:

- 3.1 Document D1 discloses, according to part of the features of claim 1,

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a method of providing data on a wireless information device (abstract), in which data ("weather" on page 5, line 1; "local weather conditions" on page 7, line 28) supplied from a remote data provider ("commercial data service provider" on page 4, line 21-22) is automatically displayed within an application running on the device ("data goes automatically into an application" on page 4, line 23; "sent straight into a user's calendar application" on page 5, line 1), and changes to alert the user to new data or to represent that new data ("pushing" data under control of a remote server, and displaying "a symbol relevant to local weather conditions at the device location" on page 7, last paragraph, implicitly implies that the icon is changed when changing weather data is received from the service provider), [wherein] different data types are already stored on the device ("local information stored on a WID" on page 56, line 8-12)

The subject-matter of claim 1 differs from the disclosure of document D1 in that:

The device is programmed to present a menu list of the different data types already stored on the device and potentially available within a given application, such that selecting a particular data type from the menu list causes data of the selected type to be automatically displayed within that application.

The problem solved by the present invention is considered to be to allow the user to specify the applications which should receive the data (see document D1, page 5, line 3; which indicates that the data should be sent only to "user specified applications")

The feature to use a menu list in an application is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to specify the applications which should receive the data.

The subject-matter of claim 1 does therefore not involve an inventive step (Articles 33(1) and (3) PCT).

- 3.2 With respect to the objection raised in item 3.1 above, independent claims 21 and 22 do also not meet the requirements of Articles 33(1) and (2) PCT for lack of inventive step of their subject-matter, because the "wireless computing device" of claim 21 and the "computer software" of claim 22 correspond to method claim 1, wherein the features of claims 21 and 22 are identical to the features of method

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claim 1.

- 3.4 Dependent claims 2-20 do not appear to contain any additional features or method steps which, either alone or in combination with the features or method steps of any claim to which they refer, meet the requirements of the PCT with respect to novelty or inventive step, because the subject-matter of these claims relates to minor design details and is either directly derivable from the above mentioned prior art or presents standard practice.

The features of these claims are all disclosed in document D1 (abstract; figure 3; page 4, line 14 - page 6, line 2; page 7, line 22 - page 8, line 5), which is a document of the same applicant and inventor as the present application, discloses the same systems and methods as claimed in the present application, and is published **before** the claimed priority date of the current application.

4. The following requirements should also have been attended to:

- 4.1 Dependent claim 2 further defines the subject matter by means of a disclaimer ("is not an application that is dedicated to data acquisition from servers remote from the device"), whereas the subject matter should be defined by means of positive features (Article 6 PCT; PCT Guidelines III-4.12).

In addition, the features of claim 2 following the expression "such as" are regarded as entirely optional, and should therefore have been deleted (Article 6 PCT; PCT Guidelines III-4.6).

- 4.2 In claim 4, the expression "appropriate and relevant factual information" is used, which is an ambiguous expression without a well-recognised meaning. This expression should therefore have been replaced by a more precise expression already disclosed in the description (Articles 6 and 34(2)(b) PCT; PCT Guidelines III-4.5).
- 4.3 The antecedent should have been added for "the icon" in claim 5 (Article 6 PCT).
- 4.4 Claims 10, 13 and 14 should have been deleted, because these claims do not add technical features to the claim(s) to which they refer (Rule 6.3(a) PCT).
- 4.5 The features of the claims should have been provided with reference signs placed

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in parenthesis to increase the intelligibility of the claims (Rule 6.2 (b) PCT). This applies to both the preamble and the characterising portion of all claims.

- 4.6 In order to indicate more completely the background art useful for understanding the invention, the above-mentioned documents D1-D4 should have been acknowledged in the description (Rule 5.1 (a) (ii) PCT).
- 4.7 Part of the subject-matter of the description is not covered by the claims. Therefore, the excess subject-matter as contained in the description on page 8, line 28 - page 9, line 28, and on page 14, line 27 - page 16, line 7, should have been removed. (PCT Guidelines III-4.3)

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SUMMARY OF THE PRESENT INVENTION

The present invention is a method of providing data to a wireless information device, in which data supplied from a remote service provider is represented by an icon which is (a) automatically displayed within an application running on the device, and which (b) changes if the data alters, in order to alert the user to new data or to represent that new data.

The application in which the icon is automatically embedded is not an application that is dedicated to data acquisition from servers remote from the device, such as a messaging application for push e-mail or a web or WAP browser. Instead, it enables the device to display and manipulate data of a *different* kind from the data associated with the data from the remote service provider. The application hence provides appropriate and relevant factual information (or 'context') in which to automatically embed the icon.

For example, a weather icon could be displayed in a calendar application if the device is being supplied or can access weather data. The weather icon changes dynamically to represent the weather on the particular day in the calendar; perhaps tomorrow's predicted weather: this is an example of a weather data service being pushed to an end user device, but because the information is automatically displayed in an appropriate context, the user has no need to browse to it. Further, because the icon is dynamic, up to date information is automatically displayed on the device. Hence, the weather icon could change from an icon of rain showers to an icon of a sun to indicate that the weather is now being predicted to be likely to turn sunny tomorrow. Clicking on the weather icon causes a new application to be launched that takes the user to more detailed weather information. This additional information could have been already sent to the device, or be downloaded to the device from a nearby device, or over a WAN, the downloading being triggered by the user clicking on the weather icon. The user may well pay a small sum (charged automatically to the phone bill) for this additional information. Another example could be traffic information; this could be automatically incorporated into a mapping or navigation application by, for example, including an icon indicative of heavy congestion over affected roads. Hence, the appearance of the specific 'congested traffic' icon over a road shown on the map alerts the user to the congestion. Combining the two

applications, weather icons could be overlaid onto a map displayed within the mapping or navigation – e.g. sun icons over London and Manchester and a rain icon over Birmingham to indicate the current weather conditions there.

5 The same data can hence be presented within several different applications; in the above example, weather data being used automatically within both a calendar application and also a mapping application, with 'dynamic' weather icons automatically embedded within the images generated by each application. Further, the data (e.g. weather data) could be a software object (as that term is understood in object based programming) and the icon is then a sub-set of the object; any given object could then have multiple different icons. 10 The object could, as noted above, be accessed by several different applications. Also, the object could have several different data variables associated with it (e.g. for a weather object, these could be current temperature, pollen count, links which if selected cause other objects to be downloaded to the device or other applications on the device to open etc.) 15 Different applications could then use different data variables of the same object. The object based approach has several advantages. For example, object based data could attach to pre-existing or native objects in an application: imagine that the calendar application uses an 'anniversary' object, which is associated with events that happen once a year. The data object of which the dynamic icon is a sub-set could then attach to an anniversary object: it could be a service from a florist, so that whenever the user opened 20 a day in the calendar in which someone's birthday was noted (and associated with an anniversary object type), then a flower icon could flash next to the birthday entry. Selecting the flashing flower icon would then open up a messaging application with a message to the on-line florist allowing the user to easily order flowers to be sent.

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Another example is a personal finance or electronic money application; then, a bank could for example push personal statements to the users' wireless information devices as represented by a small icon that is automatically embedded into the personal finance/electronic money application user interface. The icon could be the trade 30 mark/logo of the bank. When the user's balance changes, the icon could change, perhaps rotating or flashing or, more literally, could have a word based alert associated with it (e.g. "New"). The user could then, if it wished, click on the logo to trigger an

actual local accessing or download of the new statement, which would then automatically be displayed and also stored in the relevant database(s) in the personal finance application. Alternatively, the bank could choose to send the actual account balance values to users' devices, with the actual money amount in figures automatically
5 populating the appropriate account balance field within the personal finance application. The balance amount would then change as and when the device received updating balance information. In this case, the icon is not a small, stylised representational graphic, but instead actual text.

10 The term 'icon' should therefore be expansively construed to cover small, stylised representational graphics, small images (e.g. photographic thumbnails, which are not stylised representational graphics per se), text, or any combination of these. Icons can appear in several ways in an application, such as being apparent from the main view of the application (e.g. a 'cloud' icon at the top of calendar entry for a day, indicating the
15 predicted weather for that day). Icons can also be embedded in control lists, such as menu lists or dialogs. One application of this could be to automatically embed new ringtones within the list of available ringtones on a device; these newly embedded ringtones could be differentiated from existing ringtones so that the user knew they had not yet been paid for (e.g. through the words 'sample', or making them flash etc.). The
20 user can then easily sample the ringtone; if he decides to activate the ringtone, he can be charged by the supplier.

The present invention envisages in one implementation a form of real time push information; it differs from conventional push systems, such as real time push e-mail,
25 because the data received by the device is not merely stored and accessible within a single application that is dedicated to data acquisition and display, such as a messaging application for push e-mail or a web or WAP browser. Nor is it stored and accessible outside of a specific application in the way that, for example, a SMS alert "You have I message" is displayed on the standby or idle screen of a mobile telephone. Instead, the
30 data received by the device is displayed, as noted above, within a running application that is not limited to displaying only data from the specific remote service provider, or to data of the kind supplied by the data service provider, but is instead a more general

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application that nevertheless provides an appropriate and relevant context in which to automatically embed the icon.

5 The data from the remote service provider may be pushed to the device whenever the associated data changes, or at regular times or at pre-defined time intervals. This may be done without charge. Similarly, it may also be pulled by the device at regular or pre-defined time intervals as a background, automatic process, or the pull may be manually initiated by the user. The data may also arrive at the device through a synchronisation process. The more detailed information accessed only after a user has selected an icon
10 embedded within an application may be supplied on a fee basis (e.g. subscription or pay per use). Hence, the present invention contemplates in one implementation a combined push/pull model, with 'free' push data acting as an inducement to the user to pull down data that is paid for by the user.

15 Data can also be 'beamed' or otherwise distributed between end user wireless information devices, enabling the viral spreading of services. Hence, a user with for example access to a football scoring service as represented by an appropriate icon, can beam the associated object to a friend's device, which in turn enables the friend's device to receive the football scoring service, perhaps subject to the friend entering into an
20 applicable subscription service, and subject also to the friend explicitly accepting the beamed object, which may involve authenticating the sender. The data may be in biomessage or smart message format. In practice, this may be achieved by the user being given an option when selecting an icon to 'beam' that icon. Selecting the 'beam' option then automatically opens up a messaging application, with the object for the recipient to
25 obtain access to the data service being automatically made the biomessage payload for that message.

A 'gateway' server can be used to receive data from data services providers or publishers, rather than the data being sent to an end user device without any kind of intermediary
30 which stores or manipulates data. The server can act as a virtual representation of the client device. It can receive content even when the device is not available. The server provides a common interface for all service publishers and hence decouples the details of

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the handset from the content provider and allows a number of "virtual devices" to be defined against which the content providers can deliver content. It is the gateway server's responsibility to convert the content into a form that the client can handle and then deliver it to the client. This is a major advantage to both service publishers and content providers as it creates a virtual handset platform in the market. The gateway server maintains a log of all content delivered to the handset. It is able then to bill the content publisher appropriately.

10 The gateway server also gains information about the customer base, which forms a valuable CRM database for managing content to the client device. The gateway server has access to directory information that allows the user to select services more effectively.

15 The gateway server handles provisioning the client and the plug-ins and certificates that will be needed. This takes much of the authentication problem away from the client device. Integration of content into the device in this way provides an "embedded portal" within which related content such as that found on a portal can be presented to the user in a compelling manner. The gateway server is a natural location for presence information and the services associated with it. The model is entirely consistent with the
20 "web services" model that is emerging in the market and provides the front-end interface to such web services.

For convenience and flexibility, the user may be able to manage service subscriptions from an application on the device itself and to ensure data integrity any alterations made
25 should initiate a call to the gateway server and the changes mirrored in the CRM. In addition as new services are added to the gateway server they should also be made available on the device application thus keeping the gateway server and the application synchronised.

30 Further details and aspects are defined in the appended Claims.

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ART 34 AND 35

CLAIMS

1. A method of providing data to a wireless information device, in which data supplied from a remote service provider is represented by an icon which is (a)
5 automatically displayed within an application running on the device, and which (b) changes if the data alters, in order to alert the user to new data or to represent that new data.
2. The method of Claim 1 in which the application is not an application that is
10 dedicated to data acquisition from servers remote from the device, such as a messaging application for push e-mail or a web or WAP browser.
3. The method of Claim 2 in which the application enables the device to display and manipulate data of a different kind from the data associated with the data from the
15 remote service provider.
4. The method of Claim 3 in which the application provides appropriate and relevant factual information in which to automatically embed the icon.
- 20 5. The method of Claim 1 in which the step of a user clicking on the icon causes a new application to be launched that takes the user to more detailed related information.
6. The method of Claim 1 in which the data is pushed to the device.
- 25 7. The method of Claim 6 in which the data is pushed to the device whenever the associated data changes, or at regular times or at pre-defined time intervals.
8. The method of Claim 5 in which the detailed information is pulled by the device.
- 30 9. The method of Claim 8 in which the data from the remote service provider is pulled by the device at regular or pre-defined time intervals as a background, automatic process, or using a pull that is manually initiated by the user.

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10. The method of Claim 8 in which pushed data is supplied without charge to the user and the pulled detailed information is supplied on a pay basis.

5 11. The method of Claim 1 in which the same data is presented within several different applications.

12. The method of Claim 11 in which data is handled at the device by a content manager layer which insulates or separates the different applications from interfacing
10 directly with the components or other software running on the device which acquires the data

13. The method of Claim 1 in which the icon is a small, stylised representational graphic or image.

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14. The method of Claim 1 in which the icon comprises text.

15. The method of Claim 1 in which the data can be shared between several wireless information devices.

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16. The method of Claim 1 in which the device is programmed to present a menu list of different available types of data, such that selecting a particular type of data causes icons solely of that data type to be displayed.

25 17. The method of Claim 1 in which the icon is a sub-set of a software object.

18. The method of Claim 17 in which several different icons are sub-sets of the same software object.

30 19. The method of Claim 17 in which the object is accessible by several different applications.

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20. The method of Claim 17 in which the object has several different data variables associated with it.

21. The method of Claim 17 in which the object attaches to pre-existing objects in an application.

22. A wireless computing device programmed to access data from a remote service provider, the data being represented on a display of the device by an icon which (a) the device automatically displays within an application running on the device, and which (b) changes if the data alters, in order to alert the user to new data or represent that new data.

23. Computer software which enables a wireless computing device to access data, in which data supplied from a remote service provider is represented on a display of the device by an icon which (a) the device automatically displays within an application running on the device, and which (b) changes if the data alters, in order to alert the user to new data or to represent that new data.

24. Data for a data service provided to a wireless computing device over a wireless wide area network, in which the data is supplied from a remote service provider and is represented on a display of the device by an icon which (a) the device automatically displays within an application running on the device, and which (b) changes if the data alters, in order to alert the user to new data or to represent that new data.